

## **Traditional Knowledge Protection: A Critical study on Kani Tribal Community and their Benefit Sharing Model in Kerala**

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### **Abstract**

The importance of biodiversity and traditional knowledge protection has increased immensely in the recent past, due to the technological leap in the area of Biotechnology. The pace of competition induced the Western scientists and Multi National Corporations infiltrate local community's traditional knowledge and genetic resources. The paper focus on the challenges, concerns and opportunities of the Kani's globally accepted benefit sharing model.

**KEYWORDS:** Access and Benefit Sharing, Biodiversity, Intellectual Property Rights, Kani Tribes, Traditional Knowledge.

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### **Introduction**

The protection of Traditional Knowledge raises a number of policy issues in India particularly in Kerala. Such issues are extremely complex; prevent this issues, India joined Agreements like TRIPs, Convention on Biological Diversity(CBD), World Intellectual Property Organization (WIPO) etc. And initiated national level measures like Plant Variety Protection Act, Biodiversity Act, Patent Amendment Act, and Traditional Knowledge Digital Library, Benefit sharing, etc. however it is very difficult to protect and manage the biodiversity and traditional knowledge.

### **The Kani Tribes**

The Kanis inhabit in parts of Thiruvanthapuram and Kollam districts in Kerala and Tirunelveli and Kanyakumari districts of Tamil Nadu . Their current population is estimated to be approximately 18,000. The revenue and forest departments of these two southern states now hold most of these lands while the remaining parts of the lands have been appropriated and converted as estates and plantations by powerful non-tribal's. A part of the ancestral domain of Kanis covering 128 sq km in the Thiruvanthapuram district has been declared the Neyyar Wildlife Sanctuary. Contiguous to Neyyar is the Kalakkady Wild Life Sanctuary covering an area of 223 sq. kms and the Mundanthurai Wild Life Sanctuary of another 567 sq.kms, both in the Tirunelveli districts of Tamil Nadu. A larger area of 1701 sq. kms was declared the Agasthyamala Biosphere Reserve in 2001. Access to these areas is severely restricted, many thousands have been evicted and the remaining faces the threat of eviction (C.R. Bijoy 2007).

The traditional structure of the community was that of a highly coordinated unit under the control of a tribal chief called Muttukani. Traditionally Muttuknai combined the roles of the law giver, protector and dispenser of justice, physician and priest. However with time the traditional system of governance among the Kanis has been

eroded to a large extent and the role of the tribal chief is only a token time (Anuradha 1999). The role of the Forest Department in determining their choices is quite evident even to a casual visitor. The local social structures have become weaker in proportion to the increase in their dependence on forest department for their survival.

### **Discovery and Development of the Drug**

In 1987, some scientists were on a botanical collection trip to Agasthya hills, as part of the ethno-botanical survey project 'All India Coordinated Research Project' on Ethno-Biology (AICRPE), Programm by Government of India. The group consisted of a senior scientist at Regional Research Laboratory (RRL) a senior scientist from TBGRI, two local Kani Tribes men Mallan Kani and Mathan Kani as guides and two junior researchers of AICRPE, When the team reached Kottaram Vechapara, near Chonampara, a reserved forest area of Kerala, The scientist found one of the Kani chewing some small black berries and maintain energy.

After this the scientists were research on this plant, locally known as Arogyapacha (*Trichopus zeylanicus*) in Latin. The first Publication about Arogyapacha appeared in Ancient Science of life a reputed Scientific Journal on this discovery in 1988, which read; Arogyapacha found endemic to Agasthyar hills of Kerala is used by local Kani tribes as a health food for instant stamina, evergreen health and vitality. The tonic effect of the plant is comparable to that of the famous food/drug Ginseng. A critical survey of Ayurveda classics, suggest that the Arogyapacha may be the divine Varahi described by Sushruta Chemical and pharmacological evaluation of the plants have been initiated (Pushpagadan.et.al.1998).

### **Importance of the Arogyapacha**

Botanical identification of the plant was not clear initially, so it was tentatively identifies as *Trichopus Zeylanicus* with the help of local botanists. Later it was identifies as *Trichopus Zeylanicus* subsp. *Travancoricus*, a plant reported from Malasiya, Srilanka and Thailand. Even though initially it was mentioned that it was endemic to India, later it was understood that *Trichopus Zeylanicus* was unavailable elsewhere too (Unnikrishnan 2000). The anti fatigue knowledge of this plant was first reported by Kanis. Subsequently after going through the Ayurvedic literature, it was also identified as oen of the celestial plants, Varahi, mentioned in one of the oldest classical texts in of Ayurveda, *Susrutha Samhitha*.

A formulation was developed based on this plant, apart from the pharmacological and phyto-chemical studies; the plant was also studies through the concept of Ayurvedic pharmacology (*Dravyaguna Sastra*). Three more plants widely known to Ayurveda having immune modulating ad bioavailability enhancing activities were included in this formulation. Toxicological screening and open clinical trials were conducted with this formulation. According to TBGRI, all the experiment were done adhering to World Health Organizations (WHO) guidelines for traditional medicines. Standardization of forms of medicine and dosage was done. This formulation was named 'Jeevani'-the life giver. Apart from this formulation an anti-diabetic drug and a sports medicine, 'Vaji' (powerful like horse) were also developed from Arogyapacha. It took almost seven years for developing a drug. TBGRI got a process patent for this formulation.

When the formulation was developed, many companies approached TBGRI to get technology transfer. Arya Vaidya Pharmacy (AVP) an ayurvedic company based at Coimbatore was the first one who offered to share benefits with the community. As per the Council for Scientific and Industrial Research (CSIR) guidelines, TBGRI made an agreement with AVP on 10<sup>th</sup> November 1995. AVP offered to give RS.10 lakhs as royalty and 2% of the profit from sale of the drug. The agreement made was for seven years. As decided earlier 5 lakhs had to be given to the community. Rest five lakhs was used by TBGRI for their research purposes. Apart from this AVP promised to give 2% of the sale of which half would go to the Kanis. According to norms set by the Council of Scientific and Industrial research, the scientists who develop a formula are eligible for 40% of the license fee (Unnikrishnana 2000).

AVP started production of Jeevani at their factory near Alathur in Kerala with Good Manufacturing Practice (GMP) standards. AVP products development brochure said 'Arogyapacha enters modern pharmacopoeia as a safe, anti-stress, anti-fatigue, appetite promoting and restorative tonic.' commercials about Jeevani appeared through different media, "the wonder drug from the custodians of Ayurveda Jeevani an Ayurvedic Product" 'Arogyapacha, the health food of 21<sup>st</sup> century-challenging Ginseng were some captions used. Industry's altruism was filled in all propaganda. Benefit sharing offer become hot topic in national and international discussions on biodiversity.

### **Patent Application of the Drug**

In 1996 TBGRI filled a process patent application for a process of manufacture of herbal sport medicine based on the compounds isolated from arogyapacha. The application describes the invention as a novel safe herbal sports medicine, having anti-fatigue, anti-stress and stamina boosting properties. The application contains two claims, relating to a process of preparation of herbal drug from the plant arogyapacha and three further plants in the form of granules or suspension. The application does not specifically mention the tribal knowledge of arogyapacha, but it records that the therapeutic effect of this plant has been established by detailed pharmacological studies and it specifies that 'the physical appearances and characters of this plant matches well with the description of 'Varahi' describes in Susrutha Samhitha.

### **Sustainable Cultivation of Arogyapacha**

A scheme was also put in place to sustainably harvest the Arogyapacha plant in its natural habitat, using local labour from the Kani tribe. To prevent over exploitation of the plant for commercial gain, a system was devised in conjunction with the Kerala Forest Department that paid Kani households to cultivate the plant and sell the leaves to the Tropical Botanic Garden and Research Institute. This ensured the sustainable use of the natural resource, while the sale of leaves would also give the Kanis an extra source of income.

A pilot scheme for cultivation of the plant was carried out with support from India's Integrated Tribal Development Programme in areas surrounding the reserved forests from 1994 to 1996. Under this programme, fifty families were given around Rs. 2,000 (USD 40) each for cultivating the plant. The Tropical Botanic Garden and Research Institute purchased five tonnes of these leaves per month from the families and

supplied them to Arya Vaidya Pharmacy for production of Jeevani. Through this scheme, roughly half the Kanis secured employment and were trained on in-situ cultivation and harvesting of Arogyapacha to ensure that the plants were not over-harvested. This has been complemented by ex-situ cultivation conducted by the Tropical Botanic Garden and Research Institute, ensuring that this medicinal plant has been sustainably conserved.

### **Benefit-Sharing in Practice**

In November 1997, with the assistance of TBGRI a trust was registered named the Kerala Kani Samudaya Kshema Trust. The Trust has been registered with nine members. The president and vice president of the trust are two Kanis who imparted the traditional knowledge to TBGRI regarding arogyapacha. The main objective of the trust: (1) Welfare and development activities of Kanis in Kerala (2) Preparation of a biodiversity register to document the knowledge base of the Kanis; (3) Evolving and supporting methods to promote sustainable use and conservation of biological resources.

The aim of the trust is to have all adults Kanis in Kerala as its members, Kanis in the Vithura and Permigamala pachayat areas are opposed to the trust. Members of the trust are of the view that once the trust becomes functional they would be able to organize the Kanis better. Awareness about the trust is very low and even those who are aware, are often sceptical about its effectiveness. But the issue is that, the lack of awareness about the trust, new medicine developed and future program of the development. The KIRTADS complained that intellectual property rights were not being sought by local tribals and instead rights were being granted to private entities. There was a suggestion about enacting new laws which would grant IP protection to indigenous peoples like the Kanis instead of only to the formal scientist or outsiders.

Memorandum of Understanding (MoU) between the TBGRI and Ariya Vaidya Shala Pharmacy for the technology transfer was to be signed in July 1995 by the Chief Minister of Kerala, A.K. Antony, Oppositional Political Parties in the State Legislative Assembly led by CPI (M) opposed this proposal saying that the license fee could have gone into millions of rupees because of the international market potential of the product. And also the problem of government selling the technology to a private company instead of transferring the technology to the government managed Ayurvedic pharmaceutical company like Oushadhi or Kerala State Drugs and Pharmaceuticals. The Governing Council of TBGRI, under the chairmanship of the Chief Minister A.K. Antony approved the proposal to transfer technology of the drug to AVP. In the meantime production was increased; there was a huge demand for the raw material. Excessive harvest of the plant from the wild would endanger the species. Thus the TBGRI tries to tissue culture for the multiplication of the plant.

### **Equator Prize**

The Kani model of benefit sharing receives the first Equator Initiative Prize of 2002, for the sustainable utilization and sharing of Kerala Biodiversity. The Equator Initiative Prize was established by the UN for the most outstanding programs that successfully address issues of conservation, sustainable use and equitable sharing of the benefits of biodiversity and associated knowledge systems, they by helping eradicate poverty in the equatorial belt in which are concentrated the world's greatest wealth of biodiversity where also have the greatest concentration of poverty (UNDP

2002). In 2002 the UN Environment Programme and the World Trade Organization even accepted the Kerala model of Jeevani as a global model in benefit sharing and recognizing intellectual property rights of indigenous people in accordance with the guidelines of the UN convention on Biodiversity treaty.

### **Challenges of Kani Tribes Model**

The first successful benefit sharing model of the world not only attracted appreciation but has been attended with certain crucial issues and concerns. There is an open discontented regarding the compensation package offered under ABS arrangement for the scared community knowledge. The lack of one cohesive Kani 'community' has meant that there is still little uniformity in Kanis' perceptions of the benefit-sharing agreement. Tribal groups in different areas of Thiruvananthapuram district, even at distances of around 15 to 20 km from each other, were found to have differing opinions on the role of the Tropical Botanic Garden and Research Institute. There were complaints from the Vithura and Peringamala Panchayat areas, where tribal groups claimed to have been under-represented in dealings with the research institute. It has also been claimed that monetary benefits have been slow to reach community members, while lack of transparency in the running of the trust and bureaucratic obstructions have hampered its effectiveness: funds from the sale of the trust's vehicle were not accounted for, for instance.

Various measures have been proposed to refine the benefit-sharing model and future replications. These include ensuring that the prior informed consent of all relevant local and indigenous community members is obtained for access to biological resources on their lands and use of their traditional knowledge. Other recommendations have covered the scope of the material being accessed, including derivatives obtained from it, and their intended use. While the Kerala Kani Samudaya Kshema Trust remains an experiment in its access and benefit-sharing provisions, it still represents one of the only examples to date of an indigenous tribe benefitting from the use of their genetic resources and traditional knowledge, bringing substantial conservation and socioeconomic benefits to the Kani tribe and their natural heritage.

Majority of Kanis do not have membership at the Trust and no institution is taking serious steps to increase its membership. All the members of the Kanis tribe deserve the social welfare outcome of the ABS arrangement as the knowledge was collectively held by the community. Though one can justify that majority of the Kani model of ABS agreement was started much before CBD but the prior informed consent that is acquired from the Kanis are not supported by customary law or do not have the endorsement of the head of the tribe.

Not only Kanis are excluded from the patent applicants list but also never educated to participate in the R&D process for the product formulation and ethnical know-how. As a result Kanis were merely limited to the cultivators of plants in the forest on which they do not have any rights which not only broken their conformity with nature and sustainable indigenous knowledge making under the holistic framework but also annihilated their customary law system and rich oral traditional of the tribal community.

Issues at international level started when some companies of the US started to apply Jeevani as Trademark under the USPTO. A New York based company named NutriScience Innovations LLC Ltd, a global supplier of herbal drugs, is found to have

registered Jeevanni as Trade Mark bearing a serial no. 75692281 under the US trademark rules but the company withdraws its claim following uproar over the issue in India. This company along with Herbal Holistic International has been selling herbal medicine under the name Jeevani. Gene Campaign, the New Delhi based NGO was the first organization to openly come against this piracy by describing the NutriScience act as a deliberate act of theft and misappropriation (Francis 2004).

Documenting or codification of local knowledge is one of the key issues many organizations in India, whether to document the local knowledge, if documented, how to protect it and how to use it with equitable sharing of benefits arising out of the utilization. Sui-generis is the mechanism according to IPRs, suggested to protect public domain knowledge. Sui-generis is the process by which all the public domain knowledge is recorded as it is. As per this, in India now many government and non-government organizations are recording the local knowledge through People's Bio-diversity Registers (PBRs). These registers are intended to protect the public domain knowledge that cannot be protected through IPRs. Sui-generis cannot also protect the individual knowledge from a lineage or tradition, which cannot be called innovations. The recorded information in PBRs mainly includes biological resources of a locality and related cultural knowledge of its utilization. But in most of the cases there is no clear distinction between the individual knowledge and the collective knowledge. Then how can the questions of knowledge claims be addressed? There are other questions like who should document and what is the credibility of those who document?

According to the National bio-diversity bill, the rights of this knowledge are with the bio-diversity authority. They are supposed to work as middlemen between the community and the commercial stakeholders. But as there are many NGOs or private organizations also involved in the process of documentation it becomes difficult to monitor and protect the knowledge from being pirated. The credibility of many such organizations involved in the documentation is questionable. The Kani case tells us that there should be clear guidelines for all those who document or codify the knowledge from National Bio-diversity Authority. There is need of a common material and information transfer agreement to protect the documented knowledge and maintain a regulated access.

## **Conclusion**

In Kerala the traditional societies are rich ethno-biological knowledge that is particularly linked to the biological resources and traditional knowledge around them. The preservation and protection of Traditional Knowledge is the key component of the basic right to self identification and a condition for the continuous existence of indigenous and traditional people. With its entire demerits Kanis benefits model is the first successful benefit sharing model of the world to protect indigenous people and their traditional knowledge.

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